

# THE RELATIONSHIP BETWEEN CORPORATE SOCIAL RESPONSIBILITY AND CORPORATE FINANCIAL PERFORMANCE: EVIDENCE FROM A DEVELOPING COUNTRY

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## Abstract

We investigate the relationship between corporate social responsibility (CSR) and corporate financial performance (CFP) in a developing country context using annual report data from a sample of 131 firms over a 5 year period (2008-2012). Legitimacy theory and stakeholder theory underpin the study. We find a positive and significant relationship between CSR and CFP when using accounting measures of return on assets and equity, but an insignificant relationship when using the market based Tobin's Q. The moderating effect of organisational governance on measures of workplace and environmental reporting is found to be important in a less developed economy.

**Keywords:** Corporate Social Responsibility, Corporate Financial Performance, Developing Country, Bangladesh

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## 1 Introduction

Corporate social responsibility (CSR) is considered a 'strategic' tool for organizations because of its potential to deliver improved competitive advantage through its impact on primary stakeholders (Mishra and Suar, 2010). For this reason CSR is a growing research area among management, economics, and accounting scholars (Choi et al., 2010; Jones et al., 2009; Roberts, 1992; Welford et al., 2008). CSR incorporates organizations' economic, social, legal, ethical and philanthropic activities, and their efforts at cleaner production, eco-efficiency and industrial ecology, in an attempt to meet the demands of a wide range of stakeholders (Baumgartner, 2011; Carroll, 1999; Cruz and Wakolbinger, 2008; Welford and Frost, 2006). Evidence suggests that there are different driving factors, contextual issues, social norms, values, and management philosophies that motivate CSR (Kim et al., 2013; Maas and Reniers, 2014).

There is a significant body of research that attempts to understand the business case underpinning the decision to undertake CSR, including recent studies that investigate the effect of CSR on firm performance. These studies are widely debated because of the different methods of measurement used to determine firm performance and the mixed results

they achieve (Arendt and Brettel, 2010; Barnhart and Rosenstein, 1998; Goyal et al., 2013; Lee et al., 2013). Jayachandran et al. (2013) argue that CSR is a multifaceted construct that combines a range of firm responsibilities in areas such as governance, workplace, products/services, environment and the community, and the actions of each of these may impact firm financial performance in different ways. Previous literature suggests that most CSR studies on corporate financial performance (CFP) concentrate on Western developed countries (Goyal et al., 2013) with some exceptions that focus on developing countries (See for example, de Klerk and de Villiers, 2012; Mishra and Suar, 2010). Belal and Owen (2007) contend that the socio-economic context of developing countries is different from that of developed countries due to the presence of traditional societies (Uddin and Choudhury, 2008). Therefore, the influence of CSR on CFP may be different in the developing countries. This study seeks to examine the relationship between CSR and CFP in a rapidly growing developing country, Bangladesh. For the purpose of this study, we have collected five-year annual report data (2008-2012) from the Dhaka Stock Exchange (DSE).

Bangladesh is chosen as the site for our research because of its poor labor conditions, workplace environment, governance issues, and high industrial

pollution. Prior studies focusing on CSR in Bangladesh have mainly investigated the extent and volume of CSR disclosures (Azim et al., 2009; Belal, 2001; Imam, 2000), although some have found the dimensions of CSR such as governance, workplace, responsible products/services, environment and community to influence firm financial performance (Arendt and Brettel, 2010; Saleh et al., 2011). By using a sample of 131 firms over the period 2008 to 2012, this study provides additional evidence that the dimensions of CSR have influence on firm financial performance. In particular, we find that there is a positive relationship between CSR and firm performance while accounting based measures such as return on assets (ROA) and return on equity (ROE) used. However, market based performance measures such as Tobin's Q show an insignificant relationship between CSR and firm performance. We document that governance, products/services and community activities have positive influence on firm performance. In contrast, workplace/human rights and environmental responsibility are insignificant. We also find that firm's age does not have any impact on firm performance because the capital market structure is very weak in Bangladesh. However, firm's size and industry sensitivity shows positive relationship with firm performance. This study contributes to the existing body of knowledge on CSR in the developing countries context with an impact on policy and practice in possible improvements to social and environmental performance through greater accountability and transparency.

The remainder of the paper is organized as follows: In section 2, we present literature review and theoretical frameworks followed by the hypotheses development in section 3. In section 4, we explain the research method including the sample selection, variable measurement, models and estimation criteria and qualitative content analysis of annual reports. The results of analysis are presented in section 5. The final section (section 6) provides discussion and conclusion with limitations and future research directions.

## **2 Literature review and theoretical approaches**

### **2.1 Literature review**

Previous studies examining CSR have focused on the nature and pattern of CSR reporting and have shown that CSR practices differ across countries (Adams et al., 1998; Guthrie and Parker, 1989), between developed and developing countries (Imam, 2000) and between industry groups. The relationship between CSR and CFP has been widely debated with scholars arguing that organizations' CSR performance meets the expectations of stakeholders, thereby increasing CFP, because it directly enhances the value of firms by avoiding externalities and related costs (McGuire et al., 1988; Wood and Jones, 1995). Prior empirical

research of the relationship between CSR and CFP has produced mixed results (Ullmann, 1985). Several studies have shown a positive relationship between a firm's CSR activities and its CFP (Berman et al., 1999; Lo et al., 2012; McGuire et al., 1988), with these studies arguing that if firms are financially strong, they tend to be involved in more socially responsible activities with a view to reducing externalities (Parket and Eibert, 1975). However, Fogler and Nutt (1975), and McWilliams and Siegel (2000) reported that there is a neutral relationship between CSR and CFP. Other studies have reported that CSR performance has no impact on a firm's financial performance as CSR is considered a voluntary responsibility to the community and stakeholders (Aupperle et al., 1985; Orlitzky et al., 2003). Griffin and Mahon (1997) argued that the relationship between CSR and CFP differs between industries and methods of measurement. Organizations exposed to high environmental risk, practise more CSR irrespective of the nature of their financial performance owing to legitimacy threats from groups of powerful stakeholders (Deegan et al., 2002). Measures of performance are also influential with studies using market-based measurement of firm's financial performance differ from those using accounting-based measurement (McGuire et al., 1988). Goyal et al. (2013), based on their literature review of 100 research articles, reported that the relationship between CSR and CFP varies in different cultural and economic contexts. Based on 12 years (1992-2011) of published articles, they concluded that most of the prior research on the link between CSR and firm performance has concentrated on developed countries such as the US, the UK, Germany, Spain, France, Australia and the European developed nations. Moreover, the study of the value relevance of CSR in developing countries using different methods has had inconsistent results (de Klerk and de Villiers, 2012). The sparse and inconsistent evidence on the relationship between CSR and CFP in developing countries points to the need for further investigation.

Our study aims to fill this gap by focusing on a developing country, Bangladesh. As in many developing countries, CSR in Bangladesh is a new tool of corporate citizenship and is adopted on an ad hoc basis. Bangladesh is an emerging developing country that is listed in the Next Eleven economies and Global Growth Generator (GGG) countries owing to its rapid economic and social development (Goldman Sachs, 2005). It faces a number of substantial social, political, and environmental challenges (such as corruption, political instability, poverty, environmental degradation, and natural disasters). Hossain et al. (2012) reported that the majority of directors on boards of companies are directly or indirectly involved with politics and some exercise their power to violate the laws. Stakeholders, including non-governmental organizations (NGOs), civil society, and the media have demanded more

sustainable business practices (Momin, 2013). In addition, powerful external stakeholders, such as international buyers who outsource their products to Bangladesh, continue to exert pressure on companies in terms of CSR, particularly in relation to the environment, employee safety and child labor.

Prior CSR research into developing countries, including Bangladesh, has largely concentrated on the extent and volume of CSR disclosures practice (Belal et al., 2013; Belal, 2001; Belal and Momin, 2009). In the Malaysian context, Saleh et al. (2011) reported that the relationship between CSR and CFP is positive and significant although the nature of the long term relationship is not clear. Using stakeholder theory, Mishra and Suar (2010) surveyed Indian manufacturing companies to examine the CSR–CFP relationship. They found that listed companies undertake more CSR activities than non-listed companies. The findings also indicate that stock listing, firm size and ownership are important factors for good financial performance. In the Chinese context, Chen and Wang (2011) found that current year CSR activities improve firm capacity in different ways, which increases the financial performance of the next year. Scholars argue that employee satisfaction, brand image, and reducing turnover are the direct benefits of CSR by which firms increase their financial performance (Galbreath, 2010; Galbreath and Shum, 2012).

As in many developing countries, companies in Bangladesh have been reluctant to voluntarily implement practices to meet their social and environmental responsibilities, although considerable improvement has been made in recent years (Naeem and Welford, 2009). Belal and Cooper (2011) argued that the lack of government involvement in providing a CSR framework and a failure by Bangladesh's Securities and Exchange Commission (SEC) to promote social and environmental responsibility are the major drawback for CSR in Bangladesh. Belal (2001) examined the CSR practices of Bangladeshi companies and found that organizations are reflecting an improving trend in their CSR activities. More recent studies have used semi-structured interviews to explore managerial views on CSR and found that CSR practices in Bangladesh are mainly driven by pressure from groups of powerful external stakeholders, such as international buyers, NGOs and the media (Belal and Owen, 2007; Islam and Deegan, 2008; Momin and Parker, 2013).

## **2.2 Theoretical approaches**

Previous research has used different theoretical approaches to examine the relationship between CSR and CFP (Choi et al., 2010; Jayachandran et al., 2013; McGuire et al., 1988), namely, legitimacy theory, stakeholder theory and institutional theory. Legitimacy theory is mainly used to explain the corporate/managerial motivations for CSR disclosures

in both the developed and developing country context (see, for example, Islam and Deegan 2008; Momin and Parker, 2013; O'Dwyer, 2003). Legitimacy theory suggests that to be legitimate, an organization must meet the expectations and demands of the community in which it operates (Deegan, 2002; Deegan and Unerman, 2006). Wilmshurst and Frost (2000) assert that legitimacy theory can explain how an organization responds to community and stakeholder expectations. The notion of social contract is related to organizational legitimacy. Therefore, to be legitimate, an organization also needs to ensure its social norms, values, and cultures to comply with its social contract to operate (Deegan and Unerman, 2006). Previous studies have also used legitimacy theory to explain the relationship between CSR and CFP and have argued that failure to maintain legitimacy endangers a firm's survival (Blacconiere and Patten, 1994; Jayachandran et al., 2013; Mahoney and Roberts, 2007). Furthermore, by improving CSR activities, an organization can improve its financial performance through enhancing the reputation of the business, improving the relationship with people in the community by meeting their expectations, and by reducing the company's risk (Steger et al., 2007; Waddock and Graves, 1997).

Other studies have used stakeholder theory to explain the relationship between CSR and CFP (Barnett, 2007; Ullmann, 1985). According to Freeman (1984), stakeholders influence firm performance and organizations adopt CSR activities to meet the expectations of different stakeholders. Ullmann (1985) presents a three-dimensional model of stakeholder theory to explain the relationship between CSR and an organization's economic performance: the three dimensions are stakeholder power, strategic position and firm economic performance. Mitchell et al. (1997) explained the three attributes of stakeholders as being power, legitimacy and urgency, and showed how these attributes influence organizational performance.

Another group of studies has used institutional theory in CSR research (Fogarty, 1996; Scott, 1987) and argue that institutional expectations play a crucial role in organizational success and survival. The prior literature has argued that institutions may be either formal or informal (Campbell, 2000; Momin, 2013). The state or corporate laws, rules, and regulations are formal institutions whereas social norms, values, and cultural behaviors are informal institutions, both of which might have impact on both the firm's CSR activities and its performance (Haniffa and Cooke, 2005; Momin, 2013). Suchman (1995) contended that both legitimacy theory and institutional theory empower companies to undertake relevant strategies for their survival. For example, an underlying assumption of institutional theory is that organizations will react to external pressures from stakeholders in order to maintain legitimacy (Dowling and Pfeffer, 1975; Meyer and Rowan, 1977; Pfeffer and Salancik,

1978). Whilst these theories appear plausible in understanding CSR within a generalized Western model, the current study has adopted two theories namely legitimacy theory and stakeholder theory to explain the relationship between CSR and CFP in Bangladesh.

### 3 Hypotheses development

#### 3.1 Governance-related disclosure

Prior studies note that governance mechanisms, such as board size, board composition, board independence, risk management, anti-bribery issues, and so on, influence firm financial performance (Barnhart and Rosenstein, 1998; Bhagat and Bolton, 2008; Mehran, 1995). A recent study has found that large and financially solvent firms have increased CSR-related governance disclosure (Kamal and Deegan, 2013). From the legitimacy theory perspective, scholars argue that disclosure of governance related information is important to maintain an organization's legitimacy (Kamal and Deegan, (2013), to address stakeholder concerns and to meet the needs of stakeholders. The issue of governance related CSR practices is further examined by Haque and Deegan (2010), who noted that governance related climate change disclosures are increasing over time in order to fulfil stakeholders' expectations and accountability. Therefore according to legitimacy theory organisations use environmental disclosure to seek legitimacy and we argue that organizations practising good governance in Bangladesh have better financial performance because governance impacts on productivity and costs (Paul and Siegel, 2006) which we test by using the following hypothesis:

*H1. There is a positive relationship between good governance practice and CFP.*

#### 3.2 Workplace

If an organization is committed to CSR, its competitive strategy will seek to create a workplace that complies with occupational health and safety (Dawkins and Lewis, 2003; Saleh et al., 2011). In the context of developing countries, safety at work, working conditions, and other human rights related issues are of particular interest to stakeholders, in particular to international buyers who outsource products from developing countries. Therefore, organizations are motivated to improve the workplace and labor conditions to legitimize their business operations (Islam and McPhail, 2011). According to legitimacy theory and meeting stakeholder needs (in this case the investor community) we also suggest a positive relationship between workplace related human rights and CFP (Kang et al., 2010; Nielsen and Thomsen, 2007). To test this we propose the following hypothesis:

*H2. There is a positive relationship between workplace responsibility performance and CFP.*

#### 3.3 Products/Services

Product quality information, research and development, and customer initiative products have both short- and long-term effects on firm financial performance (Barber and Darrough, 1996; Mahoney and Roberts, 2007; Pauwels et al., 2004). The management literature argues that quality performance of products/services strongly influences customers' perceptions, including in relation to safety and environmental impact. It has been argued that if an organization fails to satisfy its customers' expectations, there is a high possibility that customers will not buy products/services from that organization. Galbreath (2010) argues that an organization's CSR activities are integrated with the quality of products and services in order to achieve competitive advantage in the market. According to stakeholder theory, it is an organization's responsibility to satisfy all of its stakeholders, and by doing increase its financial performance (Galbreath and Shum, 2012) and we therefore propose the following hypothesis:

*H3. There is a positive relationship between product/service responsibility performance and CFP.*

#### 3.4 Environmental performance

Prior research suggests mixed results for the relationship between an organization's environmental performance and its financial performance (Russo and Fouts, 1997; Sun, 2012). Most studies have found a positive relationship between environmental performance and financial performance (Cochran and Wood, 1984; Russo and Fouts, 1997; Ullmann, 1985). Firms which have proactive environmental management systems have greater market share and greater financial performance (Klassen and McLaughlin, 1996). Using a meta-analysis Horvathova (2010) reported that environmental performance affects financial performance and negative environmental performance threatens the legitimacy of the firm. Deegan (2002) argued that organizations adopt legitimizing strategy in their CSR activities to meet the expectations of stakeholders. Consequently legitimizing strategies help to improve environmental performance, which enhances the financial performance of an organization. However, some studies find a negative relationship between environmental responsibility disclosures and financial performance (Jaggi and Freedman, 1992). Hence, we test the association between environmental performance and CFP with the following hypothesis:

*H4. There is a positive relationship between environmental responsibility performance and CFP.*

### 3.5 Community responsibility performance

A number of prior studies have shown that community investment reduces firms' profit (Saleh et al., 2011), however, community investment also helps companies to gain competitive advantage through tax savings, decreased regulatory burden and improvements in hiring quality of local labor (Waddock and Graves 1997; Ullman 1985).. Bowen et al. (2010) reported that community engagement benefits firms in several ways. For example, firms can increase their return on investment by community investment. Rowe et al. (2013) argued that firms build long-term trustworthiness, legitimacy, trust, and reputation through community investment that goes beyond profitability. Moreover, responsibility to community is used as a stakeholder management strategy to secure greater financial return (Esteves and Barclay, 2011). Thus given these proposed benefits according to legitimacy and stakeholder studies, our study in this Bangladesh context proposes the following hypothesis:

*H5. There is a positive relationship between community responsibility performance and CFP.*

## 4 Research design

### 4.1 Sample and data collection

In this study, we use regression analysis to test the relationship between CSR dimensions and firm financial performance. The initial sample for this study consisted of all 527 firms listed on the Dhaka Stock Exchange (DSE), as at 1 January 2013. Consistent with the previous literature, companies are excluded for the following reasons: (a) treasury bond and mutual funds due to missing or incomplete data; (b) entities that established their initial public offering during the 2012 fiscal year; and (c) any entity relisting on the DSE during 2012 after having been previously delisted (Khan et al., 2012; Trotman and Bradley, 1981). After excluding organisations for the above reasons, final sample comprises 131 companies for which five years (2008-2012) of annual reports are available, resulting in a total of 655 firm-year observations. Details of the sampled companies according to their industry classification are presented in Table 1.

**Table 1.** Sample distribution by industry

Industry classification	No. of firms	Firm years	%
Bank and financial institutions	20	100	15.3
Cement	7	35	5.3
Ceramics	5	25	3.9
Engineering	15	75	11.5
Food	10	50	7.6
Fuel and power	15	75	11.5
Information technology (IT)	3	15	2.3
Jute	2	10	1.5
Paper and printing	1	5	0.7
Pharmaceuticals and chemicals	24	120	18.3
Tannery	5	25	3.9
Telecommunications	1	5	0.7
Textiles	23	115	17.5
<b>Total</b>	<b>131</b>	<b>655</b>	<b>100</b>

### 4.2 Measurements of dependent variable – CFP

Consistent with prior studies on CSR, we use both accounting-based and market-based measures to calculate a firm's CFP (Abbott and Mosen, 1979; Fomburn and Shanley, 1990; Lee et al., 2013). Return on assets (ROA) and return on equity (ROE) are the accounting-based financial performance measures used (de Klerk and de Villiers, 2012). We calculate ROA as earnings before interest and tax (EBIT)/total assets and ROE as earnings before interest and tax (EBIT)/shareholders' equity capital. The market-based financial performance tool, Tobin's Q ratio (Tobin's Q), is used to measure CFP. Prior studies have also used Tobin's Q to examine the effect of

CSR performance on firms' financial performance (Saleh et al., 2011; Elsayed and Paton 2005). Tobin's Q is calculated as the total market value of the firm/total assets of the firm. It is considered a superior measure of firm performance as it incorporates future expectations through the inclusion of the current market value (Kor and Mahoney, 2004; Lang et al., 1995).

### 4.3 Measurements of independent variables – CSR index

In this study, CSR indicates a firm's responsibilities in the following areas: governance, workplace/human resources, products/services, environment and community. Consistent with the prior literature,

content analysis of annual reports has been adopted (Khan et al. 2012; Kamal and Deegan 2013) for measurement of the CSR index in this study. Prior CSR researchers have used different techniques such as measuring the number of social disclosures, number of sentences or descriptive presentations to analyze the content of annual reports (Hackston and Milne, 1996; Haque and Deegan, 2010). In this study, we use five broad categories of CSR themes relevant to a developing countries' context, particularly Bangladesh and earlier CSR studies use these widely accepted themes for their research (Kamal and Deegan, 2013; Islam and Deegan, 2008). The themes are Governance, Codes & Policies (GOV), Workplace (WP), Product/Service (P&S), Environment (ENV) and Community and Development (COM).

Each theme includes sub-items (see Appendix) and has been scored based on disclosure levels. To calculate the CSR performance level of each individual firm, the score of each individual item under each theme is summed and then divided by the maximum number of items of the checklist. As validity and reliability are significant concerns for qualitative content analysis the authors have cross-checked the content analysis to minimize the potential errors. The following provides an example of the calculation of the governance score:

$$CSRI_j (GOV) = (\sum_{i=1}^n X_{ij})/n_j$$

Where  $CSRI_j (GOV)$ , is the governance score for  $j$ th Company, and  $n_j$  is the total number of CSR-

$$CFP (\gamma_1) = \alpha + \beta_1 (GOV) + \beta_2 (WP) + \beta_3 (P\&S) + \beta_4 (ENV) + \beta_5 (COM) + \beta_6 (FSIZE) + \beta_7 (IND) + \beta_8 (FAGE) + \xi \quad (1)$$

$$CFP (\gamma_2) = \alpha + \beta_1 (GOV) + \beta_2 (WP) + \beta_3 (P\&S) + \beta_4 (ENV) + \beta_5 (COMM) + \beta_6 (FSIZE) + \beta_7 (IND) + \beta_8 (FAGE) + \xi \quad (2)$$

$$CFP (\gamma_3) = \alpha + \beta_1 (GOV) + \beta_2 (WP) + \beta_3 (P\&S) + \beta_4 (ENV) + \beta_5 (COMM) + \beta_6 (FSIZE) + \beta_7 (IND) + \beta_8 (FAGE) + \xi \quad (3)$$

where,  $CFP (\gamma_1)$  = corporate financial performance measured by return on assets (ROA)

$CFP (\gamma_2)$  = represents corporate financial performance measured by return on equity (ROE)

$CFP (\gamma_3)$  = represents corporate financial performance measured by Tobin's Q

GOV = total governance score measured by scoring of the items under the theme

WP = total workplace/human resource score measured by scoring of the items under the theme

P&S = total products/services responsibility score measured by scoring of the items under the theme

ENV = total environmental responsibility score measured by scoring of the items under the theme

COM = total community investment score measured by scoring of the items under the theme

FSIZE = natural logarithm of market value of firm

FAGE = firm's life cycle measured by the years for which the firm has been listed on DSE

IND = dummy variable equals 1 if higher social and environmental sensitive firm otherwise 0.

The corporate social responsibility (CSR) variables are governance (GOV), workplace (WP), product and services (P&S), environmental responsibility (ENV), and community investment (COM). The control variables included in this study

governance items estimated for  $j$ th company.  $X_{ij}$  is '2' if  $i$ th item completely disclosed, '1' if partial information and '0' if no information is given. The same procedure has been followed for CSR-WP, CSR-P&S, CSR-ENV, and CSR-COM calculation. The annual result for each company is then divided by the number of years (5).

#### 4.4 Control variables

Previous studies indicate that CSR influence on firm performance may vary due to firm size, industry effect and firm age (Jayachandran et al., 2013; Mahoney and Roberts, 2007). It has been argued that CSR practice is greater in larger firms than in smaller firms because larger firms are more visible to society. Similarly, CSR is also more prevalent in certain high profile industries (Haniffa and Cooke, 2005). Moreover the age of the firm is a crucial factor for CSR and CFP (Roberts, 1992) as the more mature a firm, the more concerned it is likely to be about its reputation and social contract (Khan et al., 2012). Consistent with the prior literature, we therefore adopt firm size, firm age and industry dummies as control variables (Khan et al., 2012; Lu et al., 2014; Saleh et al., 2011).

#### 4.5 Research model and estimation method

The following regression models are used to examine the relationship between CFP and CSR performance:

are firm size (FSIZE), firm age (FAGE), and industry (IND).

Governance (GOV) practices are considered as an important element for CSR because governance ensures an organization's accountability and transparency to stakeholders. Governance has become

more important since recent corporate collapses such as Enron and WorldCom (Jamali et al., 2008). It is argued that by ensuring governance related compliance, organizations can establish good control systems which results in increased shareholder/investor confidence and enhances firm financial performance (Al Farooque et al., 2007). Workplace (*WP*) refers to working conditions and other human rights practices of firms. A good working environment can satisfy employees and save firm's costs through reducing employee turnover, which has a positive effect on firm performance (Galbreath, 2010). Products and services (*P&S*) refers to quality products/services provided by organizations as part of their sustainable business practices. The quality of products/services, particularly those that are socially and environmentally friendly, can increase customers' satisfaction, with a subsequent effect on firm reputation (McGuire et al., 1988). Environmental responsibility (*ENV*) has been identified in the prior literature as having a direct and positive link with

financial performance (Russo and Fouts, 1997). It is suggested that proactive environmental initiatives create valuable resources for the firm to gain and establish legitimacy in the society (Jacobs et al., 2010). Community investment (*COM*) is based on previous findings in which firms with more community engagement are preferred by from customers and other stakeholders, increasing their financial performance (Choi et al., 2010).

## 5 Results

Table 2 presents the descriptive statistics consisting of mean, median, standard deviation, minimum and maximum values for all variables used in this study. The average financial performance using return on assets (*ROA*), return on equity (*ROE*), and Tobin's *Q* are 4.5371, 9.3866, and 1.1989 respectively. The descriptive statistics further indicate that *ROA*, *ROE* and Tobin's *Q* and *WP* have high standard deviations which are very close to the mean value.

**Table 2.** Descriptive statistics of dependent and independent variables

Variable	Mean	SD	Minimum	Maximum	Median
ROA	4.5371	4.93094	-11.20	26.00	3.2000
ROE	9.3866	8.28680	-43.00	46.00	8.5000
Tobin's Q	1.1989	1.23985	.04	6.20	.8500
GOV	1.1645	.34755	.20	1.80	1.2000
WP	.4121	.35856	.08	1.70	.3000
P&S	.4725	.36163	.10	1.60	.5000
ENV	.3901	.33250	.00	1.60	.3000
COM	.7172	.47937	.10	1.80	.6000
IND	Dummy	Dummy	Dummy	Dummy	Dummy
FAGE	16.9542	10.36255	2.00	37.00	18
FSIZE	7.9345	1.74089	27.00	284778.00	3025

Notes: *ROA*=ratio of earnings before interest and taxes and total assets, *ROE*=ratio of earnings before interest and taxes and shareholders' total equity capital, *Tobin's Q*=ratio of total market value of shares and total assets, *GOV*=governance score, *WP*=workplace score, *P&S*=product/service score, *ENV*=environment score, *COM*=community score, *IND*=dummy variable equals 1 if higher social and environmentally sensitive firm otherwise 0, *FAGE*=number of years since firm is listed on DSE, *FSIZE*=natural logarithm of market capitalization.

Table 3 represents correlation matrix results that indicate positive correlations except for the relationships between industry type and firm age as well as firm size and firm age. Stakeholder theory envisages a positive correlation between CSR and CFP; it is evident from our findings (Table 3) that the correlation between the CSR measurement indicators and the CFP indicators is positive and significant (with the exception of *GOV* and Tobin's *Q*). Correlations among the independent CSR performance indicators may indicate the presence of multicollinearity in the model. While positive, correlations do not exceed 0.7 and should not raise issues in interpreting the regression variate. An analysis of VIF values finds all the indicators are less than the threshold level '5' (Famini et al., 2002), and confirms the absence of multicollinearity in the model. From the correlations between the CSR

measurement indicators and firm size, it is apparent that firm size is positively correlated with all the CSR measurement indicators. This is consistent with the generalized view that as firm size is increased, CSR is also increased (Choi et al., 2010).

Table 4 reports the results of regression analysis of corresponding variables in this study. In model 1 we examine the impact of CSR performance on *ROA*. We find a positive and significant relationship among variables except *WP* and *ENV* (*p*-value=.01, .05 or 0.10). The signs of the coefficients of the independent variables are also all positive. This implied that *ROA*, as a measure of CFP, is positively associated with *GOV* ( $\beta=1.078$ ,  $t=1.971$ ,  $p < .1$ ), *P&S* ( $\beta=1.401$ ,  $t=1.728$ ,  $p < .05$ ), and *COM* ( $\beta=1.056$ ,  $t=2.129$ ,  $p < .1$ ), which supported Hypotheses H1, H3, and H5 respectively.

**Table 3.** Correlation matrix and VIF

Variable	ROA	ROE	Tobin's Q	GOV	WP	CSR Score P&S	ENV	COM	IND	FAGE	FSIZE	VIF
ROA	1.000											
ROE	.770**	1.00										
Tobin's Q	.667**	.456**	1.00									
GOV	.293**	.440**	.117	1.00								2.447
WP	.160*	.206*	.195*	.573**	1.00							2.839
P&S	.357**	.348**	.239**	.564**	.588**	1.00						2.362
ENV	.287**	.239**	.268**	.486**	.442**	.480**	1.00					3.916
COM	.319**	.416**	.214*	.640**	.523**	.414**	.537**	1.00				4.521
IND	.223**	.046	.290**	.368**	.358**	.254	.243**	.446**	1.00			1.219
FAGE	.055	.015	.033	.057	.128	.042	.150	.051	-.010	1.00		1.72
FSIZE	.308**	.409**	.150**	.611**	.504**	.458**	.492	.608**	.371	-.130	1.00	2.324

\*\* Correlation at .01 level (two-tailed), \* correlation at .05 level (two-tailed)

Notes: *ROA*=ratio of earnings before interest and taxes and total assets, *ROE*=ratio of earnings before interest and taxes and shareholders' total equity capital, *Tobin's Q*=ratio of total market value of the shares and total assets, *GOV*=governance score, *WP*=workplace score, *P&S*=product/service score, *ENV*=environment score, *COM*=community score, *IND*=dummy variable equals 1 if higher social and environmentally risky firm otherwise 0, *FAGE*=number of years since firm is listed on DSE, *FSIZE*=natural logarithm of market capitalization, *VIF*=variance inflation factor.

Two hypotheses, the ones for the association between CFP and *WP* (H2) and CFP and *ENV* (H4), are not supported by the model. Adjusted  $R^2$  shows that financial performance is significantly (at 1%) explained by the CSR performance indicators in which the overall estimation is good at 39.2%. In Model 2 we find similar results that all independent variables, except *WP* and *ENV*, are significant for ROE (at  $p$ -value=.05 or 0.10). The coefficients of the independent variables revealed positive signs. This implied that ROE, as a measure of CFP, is positively associated with *GOV*, *P&S*, and *COM* which supported Hypotheses H1, H3, and H5 respectively. As a whole, financial performance is significantly (at 1%) explained by the CSR performance indicators (*GOV*, *P&S*, and *COM*) and the explanatory power model is also good at 28.6%. In model 3 we use Tobin's Q as a dependent variable and find *P&S*, *COM*, and *ENV* are significant (at  $p$ -value=.05 or 0.10) and *GOV*, *WP* are not significant. Though *ENV* has significant relationship with Tobin's Q, this does not support our hypothesized positive relationship. Therefore, H1, H2 and H4 are not supported. The model outcome also shows that the signs of the coefficients with respect to *ENV* and *WP* are negative implying a negative relationship between CFP and the CSR measurement variables: *ENV* and *WP* which is contrary to H2 and H4 with the overall result in this case being that three hypotheses (H1, H2 and H4) are not supported. Adjusted  $R^2$  showed that financial performance is explained by the CSR performance indicators at 10% level of significance while the overall explanatory power is only 6.1%. Table 4 also represents the influence of control variables (*IND*, *FSIZE*, and *FAGE*) and ran further regression analysis to examine the relationship between CSR performance and CFP.

As shown on Table 4, further examination of the impact of control variables revealed that *IND* and *FSIZE* are significant but *FAGE* is not significant in both Models 1 and 2. In Model 3, only one control

variable (*IND*) is significant with Tobin's Q and the adjusted  $R^2$  change is apparently not remarkable. However, to further ensure the impact of these control variables, effect size is calculated as shown in Table 5.

Effect size is calculated by applying the following formula:

$$f^2 = \frac{R_{\text{included}}^2 - R_{\text{excluded}}^2}{1 - R_{\text{included}}^2}$$

Where,  $f^2$ =effect size,  $R^2$  included=value of  $R^2$  after including control variables, and  $R^2$  excluded=value of  $R^2$  without including control variables.

Table 5 reveals that the effect size of the control variable in Model 1 is 18.65% which is a medium effect size, while the control variable effect size in Models 2 and 3 is small in line with Cohen's (1988) findings. In an attempt to dig deeper regarding the control variable effect size, the effect of individual control variables are assessed, which is also shown in Table 5. It is evident from the result that the control variable effect size of *IND* and *FSIZE* is medium in Model 1 and small in Model 2, whereas the control variable effect size of *FAGE* is small in all models. The overall findings in all models (refer to Table 4) showed that the association between *WP* and CFP as well as between *ENV* and CFP are not supported. As in many other developing countries, working environment, working conditions and occupational health and safety are of a low standard in Bangladesh. Governance and monitoring measures implemented by companies may impact directly on the implementation of workplace and environmental initiatives as suggested by Kamal and Deegan's (2013) study. Therefore, it is interesting to analyze whether the interaction effect of *GOV* and *WP* as well as *GOV* and *ENV* on CFP are significant.



**Table 4.** Regression analysis results

	Model 1 ROA			Model 2 ROE			Model 3 Tobin's Q		
	Coefficient	t-statistic	p-value	Coefficient	t-statistic	p-value	Coefficient	t-statistic	p-value
Constant	-8.839	-3.268	0.001	-9.946	-2.125	0.032	-1.067	-1.325	0.129
GOV	1.078	1.971	0.063*	4.126	2.367	0.031**	0.515	1.174	0.161
WP	.876	1.174	0.197	2.701	.843	0.377	-0.33	-.461	0.478
P&S	1.401	1.728	0.083*	0.224	1.764	0.094*	0.247	2.547	0.053*
ENV	1.016	1.475	0.126	3.543	.762	0.381	-0.207	-1.902	0.073*
COM	1.056	2.129	0.055*	0.714	3.156	0.019**	0.729	3.532	0.018**
IND	5.781	3.208	0.008***	3.958	2.785	0.036**	1.468	3.706	0.004**
FAGE	0.021	.846	0.558	-0.002	.147	0.978	0.003	.215	0.754
FSIZE	0.695	3.251	0.015**	1.073	2.865	0.034**	0.1	.975	0.193
Adjusted R <sup>2</sup>			0.392			0.286			0.061
F-stat			8.359***			6.021***			3.231*

Significance at: \*10%, 5%\*\* and 1%\*\*\* (two-tailed)

Notes: *ROA*=ratio of earnings before interest and taxes and total assets, *ROE*=ratio of earnings before interest and taxes and shareholders' total equity capital, *Tobin's Q*=ratio of total market value of the shares and total assets, *GOV*=governance score, *WP*=workplace score, *P&S*=product/service score, *ENV*=environment score, *COM*=community score, *IND*=dummy variable equals 1 if higher social and environmentally sensitive firm otherwise 0, *FAGE*=number of years since firm is listed on DSE, *FSIZE*=natural logarithm of market capitalization

**Table 5.** Effect size of control variables

	Model 1			Model 2			Model 3		
Effect size	24.5 %			10.5 %			1 %		
	IND	FAGE	FSIZE	IND	FAGE	FSIZE	IND	FAGE	FSIZE
Effect size	20.6%	13.2%	17.8%	8.1%	3.4%	5.7%	.68%	.23%	.34%

Table 6 includes the interaction effect of *GOV* with *WP* and *ENV* and produces significant coefficients for *GOV\*WP* ( $\beta=8.743$ ,  $t=2.081$ ,  $p < .05$ ) and *GOV\*ENV* ( $\beta=.59$ ,  $t=1.847$ ,  $p < .1$ ) when regressed on ROA. This significant relationship is replicated for ROE, however only for environmental factors when applied to Tobin's Q. As previously, the unmoderated variables continue to be insignificant

aside from *ENV* on Tobin's Q. Therefore, the analysis finds support for hypotheses H1, H3 and H5, with hypotheses H2 and H4 being rejected. To validate the findings, the statistical power of the model is tested. The result of the statistical power analysis reported that (at  $p= 5\%$ , sample size 131, 10 predictor,  $t=1.658$ ), the power of the model is .997 which is very strong.

**Table 6.** Regression analysis results (after introduction of interaction effect)

	Model 1 ROA			Model 2 ROE			Model 3 Tobin's Q		
	Coefficient	t-statistic	p-value	Coefficient	t-statistic	p-value	Coefficient	t-statistic	p-value
Constant	-3.033	-1.268	.207	1.677	1.894	0.049	-.425	-.628	.531
GOV	2.510	1.817	.079*	4.116	1.721	0.041**	.325	.803	.248
WP	10.702	1.274	.117	23.924	2.230	0.377	.254	.749	.382
P&S	.989	1.889	.053*	1.691	1.694	0.094*	1.238	1.855	.076*
ENV	1.094	1.457	.131	2.086	.501	0.381	.693	1.657	.097*
COM	.111	2.067	.047**	.417	2.142	0.019**	.251	.540	.590
GOV*WP	8.743	2.081	.040**	18.295	2.449	.016**	2.216	1.82	.056
GOV*ENV	.59	1.847	.062*	1.23	1.78	.086*	.365	1.68	.079*
IND	.489	4.966	.007***	.304	1.737	0.066*	.102	2.012	0.007
FAGE	.026	.751	.454	.018	.287	0.978	.006	.652	.516
FSIZE	0.325	2.217	.028**	.0143	2.116	0.034*	.000	2.012	.046
Adjusted R <sup>2</sup>			0.412			0.296			0.116
F-stat			8.499***			6.147***			3.877**

Significance at: \*10%, 5%\*\* and 1%\*\*\* (two-tailed)

Notes: *ROA*=ratio of earnings before interest and taxes and total assets, *ROE*=ratio of earnings before interest and taxes and shareholders' total equity capital, *Tobin's Q*=ratio of total market value of the shares and total assets, *GOV*=governance score, *WP*=workplace score, *P&S*=product/service score, *ENV*=environment score, *COM*=community score, *IND*=dummy variable equals 1 if higher social and environmentally sensitive firm otherwise 0, *FAGE*=number of years since firm is listed on DSE, *FSIZE*=natural logarithm of market capitalization

Using accounting-based measures, the result shows the positive association between CSR and CFP whereas the market-based measures are generally unresponsive. In order to support and validate this

result, a one way ANOVA test has been carried out to examine whether firms with higher CSR performance have higher CFP (Table 7).

**Table 7.** Results of ANOVA test for CFP

	Large	Medium	Small	F-value
ROA	6.6674	4.1711	3.6454	4.119**
ROE	14.1590	9.0270	7.0271	8.288***
Tobin's Q	1.4696	.9886	1.2143	1.384

The firms have been further classified into three groups as large, medium and small, based on CSR performance. The classification scheme is based on a total CSR score where 0-2 is small, 2-4 is medium and above 4 is large. The mean differences of CSR performance among the three groups of firms using a one way analysis of variance (ANOVA) test (see Table 7) examines that CFP for firms with a higher CSR index is shown to be higher than for those with a lower CSR index. The difference among the three groups is significant for ROA and ROE while it is non-significant for Tobin's Q.

## 6 Discussion and conclusion

This study provides empirical evidence of a positive relationship between CSR and firm's financial performance in Bangladesh. We argue that organizations practice CSR due to pressure from powerful stakeholders and seek internal legitimacy through gaining competitive advantage in the market which is consistent with prior literature (Bebington et al., 2008; Brønn and Vidaver-Cohen, 2009; Milne and Patten, 2002). The results of the regression analysis indicate that CSR performance influence firms' financial performance. The hypothesized relationship between CSR and CFP with respect to *GOV*, *P&S*, and *COM* (*H1*, *H3* and *H5*) is supported based on statistical evidence (see models 1, 2 and 3 in Table 4). This is consistent with a number of prior studies that document the corporate governance, product/service and community activities positive influence on firm performance (Kamal and Deegan, 2013; Saleh et al., 2011). It indicates that organisations undertake CSR activities to enhance their reputation and satisfy their stakeholders, which in turn enhances financial performance (Bebington et al., 2008; Fombrun, 1996; Toms, 2002). In the case of Models 1 and 2, workplace performance (*H2*) and environmental performance (*H4*) show an insignificant relationship between CSR and CFP, unlike the results of the prior literature. This may be caused by a number of factors specific to the Bangladesh context, including lack of awareness among stakeholders about workplace and environmental issues or inadequate reporting practices about workplace and environmental issues (Naeem and Welford, 2009; Welford and Frost, 2006).

However, our results reveal the importance of governance related measures in moderating these relationships. The interaction effects of *GOV* on both *WP* and *ENV* are significant with CFP. We argue that if organizations have strong governance performance, they are likely to have strong workplace performance and strong environmental performance.

With regard to Tobin's Q, the relationship between CSR and CFP is explained by *P&S* (*H3*) and *COM* (*H5*), whereas *GOV*, *WP*, and *ENV* (*H1*, *H2* and *H4*) are insignificant. The significant relationship between CSR and CFP with respect to *P&S* and *COM*, may be due to a number of reasons, for example, corporate policy makers may try to promote their *P&S* and community welfare practices to gain a favourable market response, attract positive media coverage and enhance corporate image (Carroll and McCombs, 2003; Fombrun, 2005; Gray and Balmer, 1998; Hammond and Slocum, 1996). On the other hand, there may be limited interest from consumers and stockholders in issues related to *GOV*, *WP* and *ENV*. Moreover, the impact of low performance in *GOV*, *WP*, and *ENV* is not highly visible in the market. The overall results of this study are consistent with the findings of Mishra and Suar (2010) and Choi et al., (2010) in the Indian and South Korean context respectively.

The findings of our study have both theoretical and managerial implications, providing empirical evidence that CSR performance has an impact on firms' financial performance in a developing country such as Bangladesh. Organizations in Bangladesh adopt socially and environmentally responsible behaviour in order to maintain legitimacy and fulfil community expectations, which has a direct and indirect relationship with firm financial performance. From a legitimacy theory perspective, our findings suggest that organizations recognize that their community licence to operate requires them to consider social and environmental initiatives (Deegan, 2007; Lindblom, 1994). Stakeholder theory which suggests that managing stakeholders through CSR is one of the key concerns for organizations is also supported by our study. Two key stakeholder measures of products and services and community related activities are found to be influential in financial performance. The results have implications for managers and policy makers because they uncover

links between investment in CSR and financial returns in developing economies. More specifically it shows that strengthening governance performance has an impact on workplace and environmental performance, leading to improved financial performance.

Our findings confirm the usefulness of CSR for firms' financial performance. However, the study has a number of limitations. Firstly, the data of this study is collected from the largest 131 companies which may restrict the generalizability of results to smaller or unlisted companies. Secondly, the CSR performance index used might not have captured all relevant items and the judgment used in scoring is subjective. Lastly, many of the Bangladeshi firms provide only limited disclosures on CSR activities measured in this study, suggesting the need for a more granular approach, which would investigate these differences.

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